Curriculum Vitae of
Professor Magdalena Musat

Personal data: Born May 16, 1970, Romania. Citizen of Romania and Italy.

Mathematical interests: Functional Analysis and Operator algebras, and their interplay with analytic, geometric and probabilistic aspects of group theory, noncommutative probability theory, analysis in quantum information theory.

Education: Ph.D. 2002, Univ. of Illinois, Urbana-Champaign (advisors: D. Burkholder, M. Junge).

Positions:

2020–	Professor	University of Copenhagen.
2017 Fall	CNRS Associate Professor	Institut Henri Poincaré, Paris.
2009–2020	Lektor (Associate Professor)	University of Copenhagen.
2008–2009	Lektor (Associate Professor)	University of Southern Denmark.
2005–2009	Assistant Professor	University of Memphis, on leave 08–09.
2004–2005	Visiting Assistant Professor	University of California, San Diego.
2002–2004	S.E. Warschawski Visiting Assist. Professor	University of California, San Diego.

Selected offices, Academic Service, Professional activities:

2020–	Head of Studies for the MSc Program in Mathematics, University of Copenhagen.
2022–	Editor of the Transactions AMS and the Memoirs AMS.
2017–	Editor of the Mathematical Proceedings of the Royal Irish Academy.
2014–	Organizer of the Distinguished Harald Bohr Lecture series in Mathematics, and of the Department Colloquium at the Mathematics Department, University of Copenhagen.
2010–	Organizer of 17 international conferences and workshops, incl. 5 Ph.D. Masterclasses at the University of Copenhagen.
•	Member of habilitation committee: Université Paris-Sud (2019).
•	Member of international Ph.D. committees: KU Leuven (2018), Univ. Caen (2019), Univ. Franche Comte (2023).
•	Member of NSF Grant evaluation Panel (twice).
•	Member of faculty hiring committees: Aalborg U. (2013), Syddansk U. (2018), DTU (2021).

Academic awards and honors:

2016	Fifty-Second Annual DeLong Lecturer, University of Colorado, Boulder. Lecture series: *Operator Algebras, Quantum Information Theory and the Grothendieck Program.*
2009–2011	Freja Stipend, University of Copenhagen.

Selected research grants:

2023–2025	Mentor, Marie Sklodowska-Curie Fellowship Grant for Pieter Spaas, amount: DKK 1,6 mio.
2021–2025	co-PI FNU grant *Operator algebras, Groups and Quantum Spaces* amount: DKK 5,145,331.
2018 Spring	PI Carlsberg Foundation Grant research stay at IPAM (UCLA). *The Connes embedding problem, Tsirelson's conjecture and factorizable quantum channels*, amount: DKK 75,000.
2016–2019	co-PI FNU grant *Groups, actions and C*-algebras*, amount: DKK 2,242,175.
2013–2016	co-PI FNU grant *Operator Algebras, Dynamical systems and Quantum Information*.
2010–2019	co-PI grant *Symmetry and Deformation*, the Danish National Research Foundation.
2009–2011	co-PI FNU grant *Operator algebras and applications*.
2007–2010	PI NSF Grant DMS-0703869 *Noncommutative probability, operator spaces and von Neumann algebras*, amount: USD 93,178.

Students and postdocs:

- 4 Ph.D. students: Tim de Laat (2013), joint with U. Haagerup, currently Juniorprofessor U. Münster, Kristian Knudsen Olesen (2016), joint with U. Haagerup, Rasmus Sylvester Bryder (2017), joint with M. Rørdam, Clemens Borys (2020), joint with M. Rørdam.

- Theses supervised: 10 MSc theses (specialer), 15 MSc Projects (Fagprojekter/PUK), of which two current, 10 BSc theses (Bachelor projekt).

- Postdocs: Christopher Cave (2015–2018), James Hyde (2022–2024), Pieter Spaas (2023–2025).

Selected invited addresses at conferences and workshops: *Over 80 invited talks at international conferences and workshops since 2000, including the following:*

2023	Workshop on Operator Algebras and Applications: Connections with logic, Fields Institute, Toronto.
2023	C*-algebras: Tensor products, Approximation and Classification, E. Kirchberg memorial, Münster.
2023	Noncommutative Harmonic Analysis and Quantum Information, Mittag Leffler Institute.
2023	Modern Trends in Operator Algebras, Ed Effros memorial, UCLA.
2023	Colloquium, UC San Diego, Probabilistic Operator Algebras Seminar, UC Berkeley.
2022	Canadian Operator Algebras Symposium (COSy), Ottawa, Plenary Speaker.
2022	North British Functional Analysis Seminar (NBFAS), Newcastle, UK, Plenary Lecture.
2022	Noncommutativity in the North, Chalmers Univ., Göteborg, Plenary speaker.
2021	Functional Analysis Seminar, UCLA.
2021	*Quantum Probability and Noncommutative Harmonic Analysis*, Lorentz Center, Leiden.
2021	Operator Seminar, Seoul National University.
2021	International Workshop on Operator Theory and Applications (IWOTA), Lancaster, Semi-Plenary.
2021	*Groups meet C*-algebras* celebrating Siegfried Echterhoff's 60th birthday, Münster.
2021	Summer School on Operator Algebras, University of Ottawa. Lecture series (4×60 min).
2021	*Special Week on Operator Algebras*, Research Center for Operator Algebras, ECNU, Shanghai.
2021	*Non-local games in quantum information theory*, AIM workshop.
2019	Workshop on C*-algebras, Mathematisches Forschungsinstitut Oberwolfach.
2019	*The Many Faceted Connes Embedding Problem*, workshop at BIRS, Banff.
2019	Advanced course on Geometry, Topology and Algebra at CRM, Barcelona (2×60 min).
2019	Thematic Program *Operator algebras, groups and applications to QIT*, ICMAT, Lect series 5×90 min.
2019	Math Picture Language Seminar, Harvard University.
2019	*Operator Algebras in the Twenty-First Century*, University of Pennsylvania, Philadelphia.
2019	*Subfactors in Sydney: Operator algebras, representation theory, quantum field theory*, UNSW Sydney.
2019	*The Connes embedding problem and QIT*, Winter school, Univ. Oslo, Lecture series (4×60 min).
2018	International Workshop on Operator Theory and Applications (IWOTA), Shanghai, Semi-Plenary.
2018	Probabilistic Operator Algebra Seminar, UC Berkeley.
2018	Colloquium, Lund University.
2017	Thematic Program *Analysis in Quantum Information Theory*, IHP Paris, Lecture series (2×90 min).
2017	Young Women in C*-algebras (YMC*A), University of Copenhagen, Main lecturer.
2016	*Mathematical Aspects in Current Quantum Information Theory*, Daejeon, Korea.
2015	*George Boole Mathematical Sciences Conference*, Cork.
2015	Canadian Operator Algebras Symposium (COSy), Waterloo, Plenary Speaker.
2014	Canadian Operator Algebras Symposium (COSy), Toronto, Plenary Speaker.
2013	Banach Algebras and Applications, Chalmers University, Gothenburg, Plenary Speaker.
2013	Workshop on Operator Spaces, Harmonic Analysis and Quantum Probability, Madrid.
2012	North British Functional Analysis Seminar (NBFAS), Oxford, UK, Lecture series (3×60 min).
2012	Operator structures in quantum information theory, BIRS, Banff.
2011	EMS-RSME Joint Mathematical Weekend, Bilbao.
2011	Conference on C*-algebras and related topics, RIMS, Kyoto.
2011	Great Plains Operator Theory Symposium (GPOTS), Tempe, AZ, Plenary Speaker.

Publications

Magdalena Musat

Articles in journals:

- *Extreme Points and Factorizability for New Classes of Unital Quantum Channels* with U. Haagerup and M.B. Ruskai, Annales H. Poincare, **22** (2021), no. 10, 3497–3498.

- *Factorizable maps and traces on the universal free product of matrix algebras*, with M. Rørdam, Int. Math. Res. Not., IMRN **2021**, no. 23, 17951–17970.

- *Non-closure of quantum correlation matrices and factorizable channels that require infinite dimensional ancilla*, with M. Rørdam, Comm. Math. Phys. **375** (2020), no. 3, 1761–1776.

- *Just-infinite C^*-algebras*, with R. Grigorchuk and M. Rørdam, Comentarii Math. Helv. **93** (2018), no. 1, 157-201.

- *An asymptotic property of factorizable completely positive maps and the Connes embedding problem*, with U. Haagerup, Comm. Math. Phys. **338** (2015), 721–752.

- *Factorization and dilation problems for completely positive maps on von Neumann algebras*, with U. Haagerup, Comm. Math. Phys. **303** (2011), 555–594.

- *Classification of hyperfinite factors up to completely bounded isomorphism of their preduals*, with U. Haagerup, J. Reine Angew. Math. **630** (2009), 141–176.

- *The Effros-Ruan conjecture for bilinear maps on C^*-algebras*, with U. Haagerup, Invent. Math. **174** (2008), 139–163.

- *On the best constants in noncommutative Khintchine-type inequalities*, with U. Haagerup, J. Funct. Analysis **250**, no. 2, (2007), 588–624.

- *A noncommutative version of the John–Nirenberg theorem*, with M. Junge, Trans. Amer. Math. Soc. **359**, no. 1 (2007), 115–142.

- *On the operator space UMD property for noncommutative L_p-spaces*, Indiana Univ. Math. J. **55**, no. 6 (2006), 1857–1892.

- *The condenser problem*, with J. Bliedtner, Potential Analysis **21** (2004), 177–192.

- *Interpolation between non-commutative BMO and non-commutative L_p-spaces*, J. Funct. Analysis **202** (2003) 195–225.

- *On strong Darboux property*, Stud. Cerc. Mat. 44 (1992), no. 4, 305–307.

Oberwolfach reports:

- *Infinite dimensional aspects of the analysis of quantum information theory*, with M. Rørdam, Oberwolfach Reports **37**, (2019), 2271–2273.

- *Factorization and dilation problems for completely positive maps on von Neumann algebras*, with U. Haagerup, Oberwolfach Reports **7**, issue 1 (2010), 718–719.

- *The Effros-Ruan conjecture for bilinear maps on C^*-algebras*, with U. Haagerup, Oberwolfach Reports **5**, issue 3 (2008), 2157–2159.

In preparation:

- *Infinite dimensional phenomena in quantum information theory and the Connes Embedding Problem*, in preparation for the Münster J. Math., memorial volume for Eberhard Kirchberg.

- *Finite dimensional approximations of hyperfinite martingales.*